PATENT
0649-0789P

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants:	Yasuhiro YOSHIOKA	Conf.:	3458
Application No.:	09/899,261	Group:	1752
Filed:	July 6, 2001	Examiner:	Thorl Chea
For:	PHOTOTHERMOGRAPHIC MATERIAL		

LETTER SUBMITTING A SIGNED DECLARATION UNDER 37 CFR 1.132

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

February 11, 2004

Sir:

Further to Applicants' Amendment filed February 6, 2004, the attached signed Rule 132 Declaration is respectfully submitted. The Examiner is respectfully requested to take into consideration the attached Rule 132 Declaration in combination with the February 6, 2004 Supplemental Amendment and the January 20, 2004 Amendment in determining the patentability of the present invention.

If the Examiner has any questions concerning this application, he is requested to contact the **Garth M. Dahlen, Ph.D., Esq.** (#43,575) at the offices of Birch, Stewart, Kolasch & Birch, LLP.

If necessary, the Commissioner is hereby authorized in this, concurrent, and further replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fee required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,

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By _____

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Enclosed: Rule 132 Declaration

PATENT
0649-0789P

IN THE U.S. PATENT AND TRADEMARK OFFICE

APPLICANT: Yasuhiro YOSHIOKA CONF. NO.: 3458

SERIAL NO: 09/899,261 GROUP: 1752

FILED: July 6, 2001 EXAMINER: Thorl Chea

FOR: PHOTOTHERMOGRAPHIC MATERIAL

DECLARATION UNDER 37 C.F.R. § 1.132

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

I, Yasuhiro YOSHIOKA, declare the following.

I graduated from the University of Tokyo, Faculty of Science witha Master's Degree in Course of Chemistry in March of 1980.

I have been employed by Fuji Photo Film Co. Ltd. (Fuji), since April of 1980.

I have been engaged in research regarding new couplers at Ashigara Research Laboratories at Fuji from 1980 to 1998.

I have been engaged in research regarding photothermographic materials at Ashigara Research Laboratories at Fuji since 1999.

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I am the inventor of the disclosure of the above-captioned application. I am fully knowledgeable of the disclosure of the application and field of art of the present invention.

The following experiments were conducted by me or under my direct supervision.

General Discussion

In the following experiments, the unexpectedly superior resistance to white spots of the inventive photothermographic material incorporating a surface active agent of Formula (F) wherein n=1 in combination with the color toning agents of phthalazine and phthalic acid is shown. In the experiments, the surface active agents FS-13, which is encompassed by inventive Formula (F) and the surface active agent FC-4 as disclosed by Toya (U.S. Patent 5,698,380) at column 17, line 38 are used.

The structure of the compounds are as follows:

FS-13 -

$C_8F_{17}CH_2CH_2SO_2N(C_3H_7)(CH_2CH_2O)_4(CH_2)_4SO_3Na$

FC-4 -

$C_8F_{17}SO_2N(C_3H_7)(CH_2CH_2O)_4(CH_2)_4SO_3Na$

As can be seen from these structures, FS-13 is a surface active agent of formula (F) wherein n = 1 whereas FC-4 is a

surface active agent of formula (F) wherein n = 0. Since the presently amended claims recite that n = 1, the compound FC-4 which lacks a "CH_2CH_2" near the fluorinated end falls outside the scope of the present invention.

TOYA

The same procedure as in Example 2 of Toya Patent was performed to prepare a photothermographic material for comparison. This photothermographic material is designated as "No. 1".

The same procedure as in Example 2 of Toya Patent was performed except for using an equimolar amount of FS-13 of the present invention in place of FC-4 in the topcoat layer of Toya Patent to prepare a photothermographic material for comparison. This photothermographic material is designated as "No. 2".

The same procedure as in Example 2 of Toya Patent was performed except for using an equimolar amount of phthalazine and an equimolar amount of phthalic acid in place of phthalazinone of Toya Patent to prepare a photothermographic material for comparison. This photothermographic material is designated as "No. 3".

The sample of the present invention was prepared as follows. The same procedure as in Example 2 of Toya Patent was performed

except for using an equimolar amount of phthalazine and an equimolar amount of phthalic acid in place of phthalazinone of Toya Patent and using an equimolar amount of FS-13 of the present invention in place of FC-4 in the topcoat layer of Toya Patent to prepare a photothermographic material. This photothermographic material is designated as "No. 4".

The development processing was carried out in the same manner as in Example of Toya Patent and the white spots were observed. Because the image density of No. 1 or 2 was very light, the white-spots were hard to observe.

No.	Photothermographic Material	Surface Active Agent	Toner	White Spots	Remarks
1	Example 2 of Toya Patent	FC-4	Phthalazinone	12	Comp. Ex.
2	Example 2 of Toya Patent	FS-13	Phthalazinone	11	Comp. Ex.
3	Example 2 of Toya Patent	FC-4	Phthalazine + Phthalic Add	18	Comp. Ex.
4	Example 2 of Toya Patent	FS-13	Phthalazine + Phthalic Acid	3	Invention

The white spots are remarkably improved only by the combination according to the present invention. Although the effect for preventing the white spots due to the surface active agent for use in the present invention can be observed in No. 1 or 2, the

effect is extremely inferior to that according to the present invention.

The data in the above Table shows that photothermographic materials incorporating surface active agents having an alkylene group bonded directly to the fluorinated end group in combination with phthalazine and phthalic acid have far superior resistance to white spots than photothermographic materials incorporating surface active agents which do not have an alkylene group bonded directly to the fluorinated end group and contain phthalazinone as the color toning agent as described in Toya. For instance, Comparative Sample 3 has six times the number of white spots as Inventive Sample No. 4 which contains the combination of the inventive surface active agent FS-13 and phthalazine and phthalic acid as the color toning agents. It is reasonable to conclude that such an improvement would not be expected based upon the disclosure of Toya, either taken alone or in combination with the prior art.

MOON

The same procedure as in Example 1 of Moon Patent was performed except for replacing all of the surfactants described in Table I of Moon Patent with each of the surface active agents

shown below to prepare photothermographic materials. These photothermographic materials are designated as "No. 5", "No. 6", "No. 7" and "No. 8", respectively. Because the image density of No. 5 or 6 was very light, the white-spots were hard to observe. In this experiment, phthalazine and phthalic acid were added in the same layer (Imaging Layer).

No.	Photothermographic Material	Surface Active Agent	Toner	White Spots	Remarks
5	Example 1 of Moon Patent	FC-4	Succinimide + Phthalimide	15	Comp. Ex.
6	Example 1 of Moon Patent	FS-13	Succinimide + Phthalimide	12	Comp. Ex.
7	Example 1 of Moon Patent	FC-4	Phthalazine + Phthalic Acid	18	Comp. Ex.
8	Example 1 of Moon Patent	FS-13	Phthalazine + Phthalic Arid	3	Invention

The white spots are remarkably improved only by the combination according to the present invention. Although the effect for preventing the white spots due to the surface active agent for use in the present invention can be observed in No. 5 or 6, the effect is extremely inferior to that according to the present invention. As can be seen from these examples, it is not an essential condition for taking the effect of the present invention that phthalazine and phthalic acid are added in the different layers.

The data in the above-table shows that photothermographic materials incorporating surface active agents having an alkylene group bonded directly to the fluorinated end group in combination with the color toning agents of phthalazine and phthalic acid, have far superior resistance to white spots than photothermographic materials incorporating surface active agents which do not have an alkylene group bonded directly to the fluorinated end group, as described in Moon. This difference is clearly shown in the number of white spots shown from Comparative Sample No. 7 having 18 white spots with Inventive Sample 8 having three white spots.

Furthermore, the details of the experiments described in the Declaration Under 37 C.F.R. §1.132 submitted to the Patent Office in a letter dated August 8, 2003 are now provided.

The same procedure as in Example 1 of the present invention was performed except for replacing phthalic acid and phthalazine with each of the compounds as described below and adding succinimide and phthalimide in an image forming layer to prepare photothermographic materials. These photothermographic materials are designated as "No. 9", "No. 10", "No. 11" and "No. 12", respectively. Because the image density is very light, the white spots were hard to observe. However, the results obtained by

observing the white spots are shown below. The remarkable effect can not be observed until the compounds are combined according to the present invention.

No.	Photothermographic Material	Surface Active Agent	Toner	White Spots	Remarks
9	Example 1 of The Present Inv.	FS-13	Succinimide + Phthalimide	12	Comp. Ex.
10	Example 1 of The Present Invention	FS-13	Phthalazinone	12	Comp. Ex.
11	Example 1 of The Present Invention	FC-4	Phthalazinone	11	Comp. Ex.
12	Example 1 of The Present Inv.	FS-13	Phthalazine + Phthalic acid	3	Invention

Y.Y 02/10/04

Based on the foregoing, the photothermographic materials incorporating surface active agents having an alkylene group bonded directly to the fluorinated end group in combination with phthalazine and phthalic acid, have far superior resistance to white spots than photothermographic materials incorporating surface active agents which do not have such an alkylene group bonded directly to the fluorinated end group and contain succinimide and phthalimide as described by Moon. Accordingly, it is reasonable to conclude that the presently claimed photothermographic materials have unexpectedly superior properties to the photothermographic materials of Moon either taken alone or in combination with Kirk et al.

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I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

This 10 day of February, 2004

By: Yasuhiro Yoshioka

Mr. Yasuhiro Yoshioka